FAA National Software Conference, June 2001
FAA STD-026

FAA-STD-026
National Airspace System (NAS) Software Development Standard

Ron Stroup
FAA, Office of Information Services
Process Engineering Division, AIO-200
(202) 493-4390
Ronald.L.Stroup@faa.gov

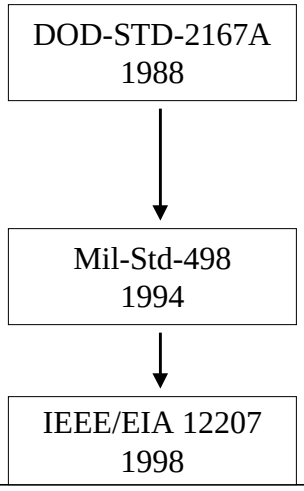
Issue

- Current standard(s) for NAS software development are a patchwork quilt
  - No unifying policy for IPT's
  - References MIL-STD-498

FAA National Software Conference, June 2001
FAA STD-026

Background

- **4/26/88**
  - **Original issue**
  - **References Mil-Std-2167A**
- **3/31/89**
  - **Additional tailoring**
- **8/4/93**
  - **Additional tailoring**
- **2/6/96**
  - **Reference Mil-Std-498**
- **Current Update**
  - **Reference IEEE 12207**



Strategy (1/3)

- Effective for all new FAA NAS acquisitions for which a Request for Proposal (RFP) has not yet been issued.

Strategy (2/3)

- Two-phased approach
  - Phase 1 (target for completion May 2001)
    - Issue Information letter to stakeholders
    - Update FAA-STD-026
    - Update DID's
    - Issue Policy

Strategy (3/3)

- Two-phased approach (cont'd)
  - Phase 2 (Target for completion TBD)
    - **Tailor 12207**
      - **Integrate existing standards**
        - **System Safety**
        - **Software Assurance**
        - **Security**
      - **Program specifics**

IEEE 12207 (1/4)

- Joint standard developed by the Institute of Electrical and Electronics Engineers (IEEE) and the Electronic Industries Alliance (EIA)
- Three parts:
  - 12207.0, Software Life Cycle Processes
  - 12207.1, Life Cycle Data
  - 12207.2, Implementation Considerations

IEEE 12207 (2/4)

- Purpose
  - Established a common framework for software life cycle processes. The standard contains processes, activities, and tasks that are to be applied during the acquisitions of systems that contain software. Specifically during the supply, development, operation, and maintenance of software products

FAA STD-026

IEEE 12207 (3/4)

- **Primary processes**
  - Acquisitions
  - Supply
  - Development
  - Operation
  - maintenance
- Organizational Processes
  - management
  - Infrastructure
  - Improvement
  - Training
- **Supporting Processes**
  - Documentation
  - CM
  - QA
  - Verifications
  - Joint review
  - Validation Audit
  - Problem resolution

FAA-STD-026

- Scope
  - Establishes requirements for software development associated with NAS acquisitions.
  - Represents the FAA approved tailoring of IEEE/EIA 12207 and documentation standards.

FAA STD-026

FAA-STD-026

- Invoked
  - Must be referenced in the contract or specification.
  - Document requirements must be implemented by contract.
- Application
  - Stand-alone product
  - Subsystem of a specified product

Documents

Title	Number	Version
Software Development Plan (SDP)	DID-FAA-026-01	1.0
Software Installation Plan (SIP)	DID-FAA-026-02	1.0
Software Transition Plan (STrP)	DID-FAA-026-03	1.0
Program Management Plan (PMP)	DID-FAA-026-04	1.0
System/Subsystem Specification (SSS)	DID-FAA-026-05	1.0
System/Subsystem Design Description (SSDD)	DID-FAA-026-06	1.0
Software Requirements Specification (SRS)	DID-FAA-026-07	1.0
Interface Requirements Specification (IRS)	DID-FAA-026-08	1.0
Software Design Description (SDD)	DID-FAA-026-09	1.0
Interface Design Description (IDD)	DID-FAA-026-10	1.0
Database Design Description (DBDD)	DID-FAA-026-11	1.0
Software Test Plan (STP)	DID-FAA-026-12	1.0
Software Test Description (STD)	DID-FAA-026-13	1.0
Software Test Report (STR)	DID-FAA-026-14	1.0
Software Product Specification (SPS)	DID-FAA-026-15	1.0
Software Version Description (SVD)	DID-FAA-026-16	1.0
Software User Manual (SUM)	DID-FAA-026-17	1.0
Software Center Operator Manual (SCOM)	DID-FAA-026-18	1.0
Software Input/Output Manual (SIOM)	DID-FAA-026-19	1.0
Computer Operation Manual (COM)	DID-FAA-026-20	1.0
Computer Programming Manual (CPM)	DID-FAA-026-21	1.0
Firmware Support Manual (FSM)	DID-FAA-026-22	1.0
Software Quality Assurance Plan (SQAP)	DID-FAA-026-23	1.0
Software Configuration Management Plan (SCMP)	DID-FAA-026-24	1.0